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SUGARCANE VARIETY TESTS IN FLORIDA, 1976-77 HARVEST SEASON

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ABSTRACT

Thirty varieties were grown and harvested at eight locations representing four soil types (Terra Ceia muck, Pahokee muck, Torry muck, and Pompano fine sand). Cane and sugar yields were measured against CP 63–588, the leading commercial variety in Florida. Three varieties, CP 72–1210, CP 72–1312, and CP 70–1133 were outstanding in yields of sugar per acre in the plant-cane experiments. CP 71–1086 and CP 71–1442 were outstanding in the first-stubble tests. CP 71–1086 averaged more sugar per acre than any other variety at all locations. CP 70–1133 produced more sugar per acre than any other variety in second-stubble experiments on Terra Ceia and Pahokee muck and Pompano fine sand. **KEYWORDS: sugarcane varieties, sugarcane yields.**

INTRODUCTION

Varieties play an important role in the successful production of sugarcane in Florida. Varieties must be adapted to various soil types and growing conditions and must have a range in maturity to permit optimum sucrose content throughout the long harvest season, which normally extends from late October to early April. Most of the sugarcane is grown in areas normally subjected to freezing and damaging temperatures. A large proportion of our sugarcane research is being directed toward developing varieties adapted to these areas.

The 1976–77 harvest season was the coldest on record.[2] Although a record number of acres were harvested in Florida, sugar production was less than the previous year because of losses in tonnage and sucrose caused by the freezing temperatures. Several thousand acres of mature cane were not milled because of freeze damage and low sucrose content. The damage to young plant cane and stubble could result in a substantial decrease in sugar production for the 1977–78 season.

All test fields were damaged by freezing temperatures between January 18 and 26, 1977. One test field was exposed to a 21° F on January 20, and the temperature was 32° F or below for 14 hours.[3] Damage occurred on both mature and young plant cane. Some loss in tonnage and sucrose occurred when harvest was delayed for several weeks.

TEST PROCEDURES

Replicated test plantings of 30 varieties were harvested at 8 locations. Five test fields were on Terra Ceia muck on the properties of Gulf and Western Food Products Co. at Okeelanta; Hatton Bros., Inc., east of Canal Point; Wedgworth Farms, Inc., east of Belle Glade; A. F. Saunders, Inc., south of Clewiston; and S.D. Corp., near 20-Mile Bend in Palm Beach

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[2] Walsh, D. 1977. Fla. Sugar News, Jan./Feb., pp. 1–6.

[3] Bloodworth, R. H. 1977. Lakeland ARC Mimeo WE–1977–. Federal State Agricultural Weather Service (in press).

County. A test field on Pahokee muck, similar to Terra Ceia muck, was located on A. Duda and Sons farm, east of Belle Glade. One test field on Pompano fine sand was at Lykes Bros., near Lakeport in Glades County. A test field on Torry muck was on the Beardsley farm near Lake Harbor. This area, commonly known as warm land because of its nearness to Lake Okeechobee, seldom suffers from freeze damage because of the warming effect of the lake.

Data from numerous observations and preliminary tests had been studied, and the most promising varieties for commercial production were planted in replicated experiments. CP 63–588, the leading variety in Florida,[4] was used as a check in all experiments. In each of 19 tests, plots of one sixty-second acre were arranged in a randomized block design with 4 replications. The margins around the test plantings were buffered to eliminate mechanical damage and border effects, but individual four-row plots were not buffered. Two lines of seed cane were planted in each furrow. Fertilizing, cultivating, controlling of insects and rodents, burning, loading, and hauling were done according to established plantation practices for adjacent commercial fields.

To evaluate maturing quality, 10 stalks were taken at random from the unburned standing cane in 2 of the 4 replications of each variety at each location between October 27 and November 9, 1976. The samples were milled, the crusher juice was analyzed for Brix and sucrose, and indicated yields of sugar per ton of cane were determined. To calculate sugar per acre from these preharvest data, we assumed that yield of cane per acre was equal to the actual yield obtained at harvest.

All replicated tests were harvested between December 10, 1976, and March 5, 1977. After each test plot had been burned, all cane was cut and piled by hand and then weighed with a tractor-mounted weighing device. Fifteen full-length stalks were taken at random from each replication and transported to Agricultural Research Service's Laboratory at Canal Point for weighing, milling, and crusher juice analysis.

All values for sugar per ton of cane and sugar per acre in this report are indicated (theoretical) yields calculated in accordance with Arceneaux's simplification of the Winter-Carp-Geerligs formula;[5] an explanation of the formula may be found in a previous publication.[6] Variety correction factors (table 1) used in the formula were obtained from milling studies at Canal Point.[7]

Although indicated sugar yields reported herein may not be obtained by all sugar factories, these yields are representative of average values that can be obtained in Florida, and more important, they are valid for comparing varieties with different milling qualities and sucrose reduction factors.

RESULTS AND DISCUSSION

Tables 2–6 give the results of plant-cane experiments on Terra Ceia and Pahokee muck; tables 7–11 give the results of first-stubble experiments on Terra Ceia muck; and tables 12–16 give the results of second-stubble experiments on Terra Ceia and Pahokee muck. The results of plant-cane and stubble experiments on Torry muck are shown in table 17–19. Tables 20–22 give the results of plant-cane and stubble experiments on Pompano fine sand.

Experiments on Terra Ceia and Pahokee Muck

CP 72–1210, a new high-tonnage variety, was outstanding in the plant-cane tests. This variety averaged more sugar per acre than any other variety in both preharvest and harvest tests (tables 4 and 6). It produced 1,884 pounds of sugar per acre more than CP 63–588 in the average of five plant-cane tests at harvest.

CP 72–1312, a vigorous, high-tonnage, late-maturing variety, produced an average of 67.88 tons of cane per acre in the plant-cane tests and thus surpassed all other varieties at four of the five locations in this category (table 2). It

[4] Rice, E. R., and Kidder, G. 1977. Florida sugarcane variety census for 1976. Sugar J. (in press).

[5] Arceneaux, G. 1935. A simplified method of making theoretical sugar yield calculations in accordance with the Winter-Carp-Geerligs formula. Int. Sugar J. 37: 264–265.

[6] Rice, E. R., and Hebert, L. P. 1972. Sugarcane variety tests in Florida during the 1971–72 season. U.S. Dep. Agric., Agric. Res. Serv. [Rep.] ARS–S–2, 14 pp.

[7] The author is grateful to J. D. Miller, research geneticist, Agricultural Research Service, for supplying the variety correction factors for this report.

was surpassed only by CP 72–1210 in average yields of sugar per acre at harvest (table 6).

CP 71–1086, a very promising, high-tonnage variety, was the outstanding variety in the first-stubble tests. This variety averaged more sugar per acre than any other variety at harvest and was equaled only by CP 71–1442 at preharvest (tables 9 and 11). It produced 3,344 pounds of sugar per acre more than CP 63–588 at harvest in the average of three first-stubble tests. CP 71–1086 was also outstanding in the plant-cane tests during the previous harvest.[8]

CP 71–1442, a vigorous, high-tonnage variety, produced an average of 57.07 tons of cane per acre in the first-stubble tests, thus surpassing all other varieties (table 7). It was not surpassed by any other variety in average yields of sugar per acre at preharvest and was exceeded only by CP 71–1086 at harvest (tables 9 and 11).

CP 70–1133, a very promising, high-tonnage, strong-stubbling variety, was the outstanding variety in the second-stubble tests. This variety averaged more sugar per acre than any other in both preharvest and harvest tests (tables 14 and 16). It produced 4,024 and 3,977 more pounds of sugar per acre than CP 63–588 in the above categories. CP 70–1133 produced 67.94 tons of cane per acre in the average of three plant-cane tests, thus surpassing all other varieties in these tests (table 2). CP 70–1133 was also the outstanding variety in the first-stubble tests during the previous harvest.[8]

CP 70–1547, a high-tonnage, low-sucrose variety, produced 53.38 tons of cane per acre in the average of four second-stubble tests, thus surpassing all other varieties in these tests (table 12). It was surpassed only by CP 70–1133 in average yields of sugar per acre in both preharvest and harvest experiments (tables 14 and 16).

CP 70–1093, a high-sucrose, high-fiber, low-tonnage variety, surpassed all other varieties in average indicated yields of sugar per ton of cane in both preharvest and harvest samples, averaging 102 and 105 percent of CP 63–588 in both categories (tables 13 and 15).

CP 63–588 was harvested in plant-cane, first-stubble, and second-stubble tests. It surpassed all varieties in indicated yields of sugar per ton of cane in the average of preharvest samples from five plant-cane tests (table 3). CP 63–588 also yielded 226.6 and 215.0 pounds of sugar per ton of cane in the average of preharvest and harvest samples from the second-stubble experiments (tables 13 and 15). It was slightly surpassed only by CP 70–1093 in the above categories. CP 63–588 was surpassed only by CP 70–1133 and CP 70–1547 in average yields of sugar per acre at harvest in the second-stubble experiments (table 16).

Experiments on Torry Muck

Plant-cane, first-stubble, and second-stubble plantings were harvested on Torry muck at the Beardsley farm. CP 72–1312, characterized by high tonnage and high fiber, produced 91.62 tons of cane and 19,936 pounds of sugar per acre in the plant-cane harvest, thus surpassing all other varieties in these categories (table 17).

CP 72–1215 yielded 221.2 pounds of sugar per ton of cane and 18,578 pounds of sugar per acre at preharvest, thus exceeding all other varieties in the plant-cane test.

CP 71–1086 was the outstanding variety in the first-stubble experiment and thus surpassed all others in yields of cane and sugar per acre on both preharvest and harvest dates (table 18).

CP 71–1442, a vigorous, high-tonnage, low-sucrose variety, yielded 87.89 tons of cane and 20,136 pounds of sugar per acre in the first-stubble experiment. It was exceeded only by CP 71–1086, but the differences were insignificant.

CP 70–1547, a high-tonnage, low-sucrose variety, was outstanding in the second-stubble experiment. It yielded 96.60 tons of cane and 20,460 pounds of sugar per acre and was not exceeded by any other variety (table 19).

CP 63–588 was harvested in plant-cane, first-stubble, and second-stubble tests. It produced 19,038 pounds of sugar per acre in plant cane and was surpassed only by CP 72–1312 and CP 72–1215, but only by insignificant amounts (table 17). In the second-stubble test, CP 63–588 yielded 255.6 pounds of sugar per ton and 18,457 pounds of sugar per acre at preharvest, thus surpassing all other varieties. (table 19). It was exceeded only by CP 70–1547 in yield of cane per acre.

[8] Rice, E. R. 1976. Sugarcane variety tests in Florida, 1975–76 harvest season. U.S. Dep. Agric., Agric. Res. Serv. [Rep.] ARS–S–142, 25 pp.

Experiments on Pompano Fine Sand

CP 72–1312 was the outstanding variety in the plant-cane experiment and thus surpassed all other varieties in yields of cane and sugar per acre on both preharvest and harvest dates (table 20).

CP 71–1086 was the outstanding variety in the first-stubble test. It produced high yields of cane and sugar per acre in both preharvest and harvest tests and surpassed all other varieties in these categories (table 21).

CP 70–1133, one of the most promising varieties in the entire testing program, was the outstanding variety in the second-stubble experiment. It ranked first in yields of cane and sugar per acre on both preharvest and harvest dates (table 22). CP 70–1133 was slightly superior to CP 63–588 in yields of cane and sugar per acre in the plant-cane experiment (table 20).

CP 63–588 performed well in all yield categories. In the November 2 plant-cane preharvest, it exceeded all others in yield of sugar per ton of cane and was not significantly exceeded by any other variety in the January 28 harvest (table 20). In the first-stubble test, CP 63–588 yielded 285.8 pounds of sugar per ton of cane on January 26, thus surpassing all other varieties in this category (table 21). CP 63–588 was only exceeded by CP 70–1133 and CP 70–1547 in yields of cane and sugar per acre in the second-stubble experiment (table 22).

SUMMARY

The plant-cane series contains three varieties of particular interest, namely, CP 72–1210, CP 72–1312, and CP 70–1133. All three varieties produced more sugar per acre than CP 63–588 in the average of five experiments on Terra Ceia and Pahokee muck. CP 72–1312 was also the outstanding variety on Torry muck.

CP 71–1086 and CP 71–1442 were the outstanding varieties in the first-stubble experiments. CP 71–1086 averaged more sugar per acre than any other variety at all locations. CP 71–1442 averaged more cane per acre than any other variety in the experiments on Terra Ceia muck.

CP 70–1133 and CP 70–1547 were outstanding in the second-stubble experiments. CP 70–1133 produced more sugar per acre than any other variety in both preharvest and harvest tests at all locations on Terra Ceia and Pahokee muck. This variety also ranked first in yields of cane and sugar per acre on Pompano fine sand. CP 70–1133 has been most outstanding during 4 years of replicated tests and will be considered for release to the industry in the fall of 1977. CP 70–1547 produced high yields of cane and sugar per acre at all locations.

TABLE 1.—*Variety correction factors*[1]

Variety	VCF	Variety	VCF
CP 63–588	1.00	CP 71–1194	1.00
CP 69–2009	.94	CP 71–1240	.96
CP 70–1093	.94	CP 71–1270	.98
CP 70–1133	.98	CP 71–1273	.96
CP 70–1163	.96	CP 71–1442	.98
CP 70–1191	1.00	CP 71–1449	1.00
CP 70–1383	1.00	CP 71–1504	1.00
CP 70–1467	.92	CP 71–1555	.98
CP 70–1512	1.00	CP 71–2050	.94
CP 70–1527	.96	CP 72–1210	.94
CP 70–1547	.96	CP 72–1215	.96
CP 70–1548	1.00	CP 72–1271	.94
CP 71–1027	.96	CP 72–1312	.94
CP 71–1086	.98	CP 72–1370	.98
CP 71–1166	.98	CP 72–1497	.92

[1] Variety correction factors (VCF) were used to calculate the theoretical yield of 96° sugar per ton of cane according to Arceneaux's simplification of the Winter-Carp-Geerligs formula.

TABLE 2.—*Yields of cane, in tons per acre, from plant cane on Terra Ceia and Pahokee muck*

Variety	Average yield by farm and harvest date[1]					Average yield, all farms
	Hatton Bros. 1/28/77	Okeelanta 2/3/77	Wedgworth 2/9/77	S.D. Corp. 2/15/77	Duda 3/5/77	
CP 70–1133	75.56	.....	70.52	57.75	.....	[2]67.94
CP 72–1312	82.35	62.57	71.29	55.18	67.99	67.88
CP 72–1210	80.19	58.23	66.74	61.32	63.70	66.04
CP 72–1215	65.54	56.94	62.36	47.11	60.40	58.47
CP 72–1497	74.00	50.49	58.83	54.54	54.42	58.46
CP 63–588	68.86	51.67	58.35	43.08	59.96	56.38
CP 72–1271	70.22	47.94	59.70	42.23	53.23	54.66
CP 72–1370	75.64	41.43	[3]55.74	39.27	[3]50.43	52.50
LSD:[4]						
5% level	4.06	3.28	9.76	8.14	4.92	2.82
1% level	5.52	4.49	([5])	11.07	6.73	3.73

[1] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.
[2] Average of 3 locations.
[3] Severe rat damage.
[4] LSD = Least significant difference between any 2 values.
[5] Not significant.

TABLE 3.—*Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of plant cane on Terra Ceia and Pahokee muck*

Variety	Average yield by farm and sampling date[1]					Average yield, all farms
	Hatton Bros. 10/27/76	Okeelanta 10/28/76	Duda 11/4/76	Wedgworth 11/5/76	S.D. Corp. 11/8/76	
CP 63–588	172.7	173.9	212.1	220.6	185.7	193.0
CP 72–1370	156.0	196.1	217.6	209.7	179.1	191.7
CP 72–1271	171.5	198.9	197.8	215.3	165.3	189.8
CP 72–1497	174.8	185.6	189.0	198.4	177.8	185.1
CP 72–1210	175.0	200.1	204.1	188.8	156.6	184.9
CP 70–1133	156.7	.....	.....	194.5	176.8	[2]176.0
CP 72–1312	131.3	175.9	173.9	192.5	151.9	165.1
CP 72–1215	164.2	162.9	145.4	179.0	157.6	161.8

[1] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.
[2] Average of 3 locations.

TABLE 4.—*Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of plant cane on Terra Ceia and Pahokee muck*[1]

Variety	Average yield by farm and sampling date[2]					Average yield, all farms
	Hatton Bros. 10/27/76	Okeelanta 10/28/76	Duda 11/4/76	Wedgworth 11/5/76	S.D. Corp. 11/8/76	
CP 72–1210	14,033	11,652	13,001	12,600	9,603	12,178
CP 70–1133	11,840	.....	.....	13,716	10,210	[3]11,922
CP 72–1312	10,812	11,006	11,823	13,723	8,382	11,149
CP 63–588	11,892	8,985	12,718	12,872	8,000	10,893
CP 72–1497	12,935	9,371	10,285	11,672	9,697	10,792
CP 72–1271	12,043	9,535	10,529	12,853	6,981	10,388
CP 72–1370	11,800	8,124	10,974	11,689	7,033	9,924
CP 72–1215	10,762	9,276	8,782	11,162	7,424	9,481

[1] Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

[2] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

[3] Average of 3 locations.

TABLE 5.—*Indicated yields of 96° sugar, in pounds per ton of cane, from plant cane on Terra Ceia and Pahokee muck*

Variety	Average yield by farm and sampling date[1]					Average yield, all farms
	Hatton Bros. 1/28/77	Okeelanta 2/3/77	Wedgworth 2/9/77	S.D. Corp[2] 2/15/77	Duda[2] 3/5/77	
CP 72–1271	177.2	239.7	230.8	165.1	225.5	207.7
CP 72–1210	206.1	221.4	225.4	139.0	212.2	200.8
CP 63–588	200.8	210.8	220.4	133.4	229.4	199.0
CP 72–1312	171.4	202.5	205.9	160.6	203.9	188.9
CP 72–1370	165.9	204.0	218.8	113.7	176.4	175.8
CP 70–1133	182.0	.....	216.1	121.8	.....	[3]173.3
CP 72–1215	177.1	187.2	193.8	87.0	208.3	170.7
CP 72–1497	175.7	181.0	193.1	107.1	138.6	159.1
LSD:[4]						
5% level	16.9	21.0	16.7	40.5	14.0	10.3
1% level	23.0	28.8	22.8	55.2	19.2	13.6

[1] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

[2] Yields at these locations were reduced because of delayed harvest following freeze damage.

[3] Average of 3 locations.

[4] LSD = Least significant difference between any 2 values.

TABLE 6.—*Indicated yields of 96° sugar, in pounds per acre, from plant cane on Terra Ceia and Pahokee muck*

Variety	Average yield by farm and harvest date[1]					Average yield, all farms
	Hatton Bros. 1/28/77	Okeelanta 2/3/77	Wedgworth 2/9/77	S.D. Corp. 2/15/77	Duda 3/5/77	
CP 72–1210	16,527	12,892	15,043	8,523	13,517	13,300
CP 72–1312	14,115	12,670	14,679	8,862	13,863	12,838
CP 70–1133	13,752	.....	15,239	7,034	.....	[2]12,008
CP 63–588	13,827	10,892	12,860	5,747	13,755	11,416
CP 72–1271	12,443	11,491	13,779	6,972	12,003	11,338
CP 72–1215	11,607	10,659	12,085	4,098	12,581	10,206
CP 72–1497	13,002	9,139	11,360	5,841	7,543	9,377
CP 72–1370	12,549	8,452	12,196	4,465	8,896	9,312
LSD:[3]						
5% level	960	868	1,480	1,456	896	567
1% level	1,307	1,189	2,015	1,982	1,228	750

[1] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.
[2] Average of 3 locations.
[3] LSD=Least significant difference between any 2 values.

TABLE 7.—*Yields of cane, in tons per acre, from first stubble on Terra Ceia muck*

Variety	Average yield by farm and harvest date			Average yield, all farms
	S.D. Corp. 12/29/76	Wedgworth 2/9/77	Hatton Bros.[1] 3/1/77	
CP 71–1442	58.35	60.04	52.83	57.07
CP 71–1086	54.31	63.81	46.91	55.01
CP 71–1194	49.50	54.84	38.83	47.72
CP 70–1527	49.51	47.50	39.99	45.67
CP 71–1027	47.78	50.98	36.82	45.19
CP 71–1240	46.59	49.30	37.94	44.61
CP 63–588	43.49	43.68	36.00	41.06
CP 71–1555	40.45	48.20	34.52	41.06
CP 71–1166	43.01	39.13	35.95	39.36
CP 71–1273	37.73	43.09	34.39	38.40
CP 71–1270	34.54	46.92	31.31	37.59
CP 71–1449	[2]50.01	[2]28.88	[2]30.71	36.53
CP 71–1504	[2]38.61	[2]33.18	[2]24.33	32.04
LSD:[3]				
5% level	6.68	6.00	4.10	3.21
1% level	8.95	8.05	5.49	4.25

[1] Yields at this location were reduced because of delayed harvest following freeze damage.
[2] Severe rat damage.
[3] LSD=Least significant difference between any 2 values.

TABLE 8.—*Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of first stubble on Terra Ceia muck*

Variety	Average yield by farm and sampling date			Average yield, all farms
	Hatton Bros. 10/27/76	Wedgworth 11/5/76	S.D. Corp. 11/8/76	
CP 71–1449	212.0	236.0	233.1	227.0
CP 63–588	213.4	217.6	223.8	218.3
CP 71–1273	208.0	230.3	208.8	215.7
CP 71–1555	208.6	221.5	214.8	215.0
CP 71–1504	198.3	204.0	237.1	213.1
CP 71–1027	198.8	216.7	223.5	213.0
CP 71–1086	202.5	216.2	214.7	211.1
CP 71–1194	204.4	220.8	205.8	210.3
CP 71–1240	187.3	217.3	218.8	207.8
CP 71–1442	209.5	195.8	207.9	204.4
CP 70–1527	185.6	208.1	202.1	198.6
CP 71–1166	187.8	206.4	197.7	197.3
CP 71–1270	151.7	195.5	189.3	178.8

TABLE 9.—*Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of first stubble on Terra Ceia muck*[1]

Variety	Average yield by farm and sampling date			Average yield, all farms
	Hatton Bros. 10/27/76	Wedgworth 11/5/76	S.D. Corp. 11/8/76	
CP 71–1086	9,499	13,796	11,660	11,652
CP 71–1442	11,068	11,756	12,131	11,652
CP 71–1194	7,937	12,109	10,187	10,078
CP 71–1027	7,320	11,047	10,679	9,682
CP 71–1240	7,106	10,717	10,194	9,339
CP 70–1527	7,422	9,885	10,006	9,104
CP 63–588	7,682	9,505	9,733	8,973
CP 71–1555	7,201	10,676	8,689	8,855
CP 71–1449	6,510	6,816	11,657	8,328
CP 71–1273	7,153	9,924	7,878	8,318
CP 71–1166	6,751	8,076	8,503	7,777
CP 71–1504	4,825	6,769	9,154	6,916
CP 71–1270	4,750	9,173	6,538	6,820

[1] Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

TABLE 10.—*Indicated yields of 96° sugar, in pounds per ton of cane, from first stubble on Terra Ceia muck*

Variety	Average yield by farm and harvest date			Average yield, all farms
	S.D. Corp. 12/29/76	Wedgworth 2/9/77	Hatton Bros.[1] 3/1/77	
CP 71–1086	215.4	219.4	185.5	206.8
CP 71–1555	215.0	228.5	156.8	200.1
CP 71–1027	229.6	215.7	152.7	199.3
CP 63–588	220.3	219.9	144.0	194.8
CP 71–1273	223.1	217.7	133.1	191.3
CP 70–1527	213.0	211.8	133.2	186.0
CP 71–1240	209.5	204.9	141.6	185.3
CP 71–1442	202.4	206.6	141.8	183.6
CP 71–1166	207.9	183.6	109.5	167.0
CP 71–1504	223.0	200.4	76.5	166.6
CP 71–1194	217.5	180.2	77.7	158.5
CP 71–1270	173.2	170.0	126.2	156.5
CP 71–1449	210.9	162.6	65.1	146.2
LSD:[2]				
5% level	20.8	19.5	40.7	16.2
1% level	27.9	26.2	54.6	21.4

[1] Yields at this location were reduced because of delayed harvest following freeze damage.
[2] LSD = Least significant difference between any 2 values.

TABLE 11.—*Indicated yields of 96° sugar, in pounds per acre, from first stubble on Terra Ceia muck*

Variety	Average yield by farm and harvest date			Average yield, all farms
	S.D. Corp. 12/29/76	Wedgworth 2/9/77	Hatton Bros. 3/1/77	
CP 71–1086	11,698	14,000	8,702	11,467
CP 71–1442	11,810	12,404	7,491	10,568
CP 71–1027	10,970	10,996	5,622	9,196
CP 70–1527	10,546	10,060	5,327	8,644
CP 71–1240	9,761	10,102	5,372	8,412
CP 71–1555	8,697	11,014	5,413	8,375
CP 63–588	9,581	9,605	5,184	8,123
CP 71–1194	10,766	9,882	3,018	7,889
CP 71–1273	8,418	9,381	4,577	7,459
CP 71–1166	8,942	7,184	3,936	6,687
CP 71–1270	5,982	7,976	3,951	5,970
CP 71–1449	10,547	4,696	2,000	5,748
CP 71–1504	8,610	6,649	1,861	5,707
LSD:[1]				
5% level	1,161	1,053	884	636
1% level	1,556	1,412	1,185	841

[1] LSD = Least significant difference between any 2 values.

TABLE 12.—*Yields of cane, in tons per acre, from second stubble on Terra Ceia and Pahokee muck*

Variety	Average yield by farm and harvest date[1]				Average yield, all farms
	Duda 12/10/76	Saunders 1/7/77	Wedgworth 2/8/77	Hatton Bros.[2] 3/1/77	
CP 70–1547	59.88	50.60	56.28	46.76	53.38
CP 70–1133	58.29	45.04	57.43	45.36	51.53
CP 70–1191	42.51	28.48	40.47	24.79	34.06
CP 63–588	38.44	15.12	44.96	29.29	31.95
CP 70–1093	34.66	17.84	37.77	30.95	30.30
CP 70–1467	37.53	19.42	34.43	[3]28.23	29.90
CP 70–1163	31.25	18.66	42.04	[3]23.95	28.98
CP 69–2009	34.96	12.37	35.50	23.38	26.55
CP 70–1548	29.91	17.44	35.13	[3]20.42	25.72
CP 70–1512	24.80	13.09	35.08	21.55	23.63
CP 70–1383	22.72	21.28	[3]31.19	[3]16.00	22.80
LSD:[4]					
5% level	7.64	6.49	6.19	4.51	3.05
1% level	10.28	8.74	8.33	6.08	4.03

[1] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.
[2] Yields at this location were reduced because of delayed harvest following freeze damage.
[3] Severe rat damage.
[4] LSD = Least significant difference between any 2 values.

TABLE 13.—*Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of second stubble on Terra Ceia and Pahokee muck*

Variety	Average yield by farm and sampling date[1]					Average yield, all farms
	Hatton Bros. 10/27/76	Saunders 10/28/76	Duda 11/4/76	Wedgworth 11/5/76	S.D. Corp. 11/8/76	
CP 70–1093	204.3	235.3	230.7	230.9	251.8	230.6
CP 63–588	180.9	251.2	245.7	217.0	238.2	226.6
CP 69–2009	200.4	224.5	241.7	233.6	227.1	225.5
CP 70–1467	206.4	219.1	239.9	211.5	246.0	224.6
CP 70–1548	132.3	229.6	244.7	245.9	269.6	224.4
CP 70–1163	199.5	215.5	255.0	199.8	240.6	222.1
CP 70–1133	196.9	206.8	233.8	218.0	247.5	220.6
CP 70–1191	151.6	212.7	233.0	212.7	236.2	209.2
CP 70–1383	159.4	174.8	253.9	198.4	242.3	205.8
CP 70–1512	187.4	172.9	241.8	199.7	211.2	202.6
CP 70–1547	170.5	173.9	204.3	189.7	216.3	190.9

[1] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

TABLE 14.—*Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of second stubble on Terra Ceia and Pahokee muck*[1]

Variety	Average yield by farm and sampling date[2]				Average yield, all farms
	Hatton Bros. 10/27/76	Saunders 10/28/76	Duda 11/4/76	Wedgworth 11/5/76	
CP 70-1133	8,931	9,314	13,628	12,520	11,098
CP 70-1547	7,972	8,799	12,233	10,676	9,920
CP 70-1191	3,758	6,058	9,905	8,608	7,082
CP 63-588	5,298	3,798	9,445	9,756	7,074
CP 70-1093	6,323	4,198	7,996	8,721	6,810
CP 70-1467	5,827	4,255	9,003	7,282	6,592
CP 70-1163	4,778	4,021	7,969	8,400	6,292
CP 69-2009	4,685	2,777	8,450	8,293	6,051
CP 70-1548	2,703	4,004	7,319	8,638	5,666
CP 70-1512	4,038	2,263	5,997	7,005	4,826
CP 70-1383	2,550	3,720	5,769	6,188	4,557

[1] Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

[2] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

TABLE 15.—*Indicated yields of 96° sugar, in pounds per ton of cane, from second stubble on Terra Ceia and Pahokee muck*

Variety	Average yield by farm and harvest date[1]				Average yield, all farms
	Duda 12/10/76	Saunders 1/7/77	Wedgworth 2/8/77	Hatton Bros.[2] 3/1/77	
CP 70-1093	251.2	251.1	224.8	175.7	225.7
CP 63-588	249.3	264.6	217.5	128.5	215.0
CP 70-1133	235.7	243.3	210.0	138.4	206.8
CP 70-1163	247.7	254.3	203.6	79.4	196.2
CP 70-1548	248.1	262.5	207.0	56.4	193.5
CP 69-2009	234.7	243.2	178.4	104.0	190.1
CP 70-1512	243.3	215.1	191.9	102.9	188.3
CP 70-1467	236.4	233.4	199.0	58.4	181.8
CP 70-1547	219.7	208.3	170.2	114.9	178.3
CP 70-1191	244.2	239.2	151.4	53.4	172.0
CP 70-1383	239.3	220.2	146.6	33.2	159.8
LSD:[3]					
5% level	12.5	16.7	20.1	59.2	16.0
1% level	16.8	22.5	27.1	79.8	21.1

[1] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

[2] Yields at this location were reduced because of delayed harvest following freeze damage.

[3] LSD = Least significant difference between any 2 values.

TABLE 16.—*Indicated yields of 96° sugar, in pounds per acre, from second stubble on Terra Ceia and Pahokee muck.*

Variety	Average yield by farm and harvest date[1]				Average yield, all farms
	Duda 12/10/76	Saunders 1/7/77	Wedgworth 2/8/77	Hatton Bros. 3/1/77	
CP 70–1133	13,739	10,958	12,060	6,278	10,759
CP 70–1547	13,156	10,540	9,579	5,373	9,662
CP 63–588	9,583	4,001	9,779	3,764	6,782
CP 70–1093	8,706	4,480	8,491	5,438	6,779
CP 70–1191	10,381	6,812	6,127	1,324	6,161
CP 70–1163	7,741	4,745	8,559	1,901	5,736
CP 70–1467	8,872	4,533	6,852	1,650	5,477
CP 70–1548	7,421	4,576	7,272	1,153	5,106
CP 69–2009	8,205	3,008	6,333	2,432	4,994
CP 70–1512	6,034	2,816	6,732	2,217	4,450
CP 70–1383	5,437	4,686	4,572	531	3,806
LSD:[2]					
5% level	931	783	987	850	553
1% level	1,254	1,055	1,329	1,145	731

[1] Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.
[2] LSD = Least significant difference between any 2 values.

TABLE 17.—*Yields of cane and sugar from plant cane on Torry muck*

Variety	Cane harvest 1/9/77 (tons/acre)	96° sugar at preharvest 11/9/76		96° sugar at harvest 1/9/77	
		Pounds/ ton of cane	Pounds/ acre of cane[1]	Pounds/ ton of cane	Pounds/ acre of cane
CP 72–1312	91.62	180.3	16,519	217.6	19,936
CP 72–1215	83.99	221.2	18,578	232.2	19,502
CP 63–588	75.40	212.0	15,984	252.5	19,038
CP 70–1133	81.44	205.2	16,711	229.9	18,723
CP 72–1370	69.43	215.4	14,955	256.0	17,774
CP 72–1497	79.02	194.1	15,338	224.0	17,700
CP 72–1210	67.23	202.9	13,641	251.2	16,888
CP 72–1271	67.64	220.7	14,928	240.4	16,261
LSD:[2]					
5% level	9.24	([3])	([3])	([4])	2,309
1% level	12.57	([3])	([3])	([4])	3,143

[1] Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.
[2] LSD = Least significant difference between any 2 values.
[3] Not determined.
[4] Not significant.

TABLE 18.—*Yields of cane and sugar from first stubble on Torry muck*

Variety	Cane harvest 1/11/77 (tons/acre)	96° sugar at preharvest 11/9/76		96° sugar at harvest 1/11/77	
		Pounds/ ton of cane	Pounds/ acre of cane[1]	Pounds/ ton of cane	Pounds/ acre of cane
CP 71-1086	88.14	224.9	19,823	237.9	20,968
CP 71-1442	87.89	206.6	18,158	229.1	20,136
CP 71-1027	81.32	238.2	19,370	237.9	19,346
CP 71-1194	80.29	227.1	18,234	232.0	18,627
CP 71-1240	73.32	232.1	17,018	222.6	16,321
CP 63-588	65.02	244.6	15,904	240.7	15,650
CP 71-1270	65.51	205.2	13,443	238.6	15,631
CP 70-1527	68.50	207.3	14,200	221.9	15,200
CP 71-1504	57.06	238.4	13,603	263.5	15,035
CP 71-1555	60.83	243.1	14,788	240.6	14,636
CP 71-1273	59.59	245.9	14,653	239.7	14,284
CP 71-1449	57.53	242.5	13,951	246.6	14,187
CP 71-1166	60.54	216.6	13,113	231.4	14,009
LSD:[2]					
5% level	6.66	([3])	([3])	13.9	1,235
1% level	8.92	([3])	([3])	18.6	1,656

[1] Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

[2] LSD = Least significant difference between any 2 values.

[3] Not determined.

TABLE 19.—*Yields of cane and sugar from second stubble on Torry muck*

Variety	Cane harvest 1/10/77 (tons/acre)	96° sugar at preharvest 11/9/76		96° sugar at harvest 1/10/77	
		Pounds/ ton of cane	Pounds/ acre of cane[1]	Pounds/ ton of cane	Pounds/ acre of cane
CP 70-1547	96.60	190.3	18,383	211.8	20,460
CP 63-588	72.21	255.6	18,457	258.3	18,652
CP 70-1191	70.84	233.9	16,569	245.1	17,363
CP 70-1093	65.52	243.8	15,974	250.1	16,386
CP 70-1163	54.78	246.8	13,520	270.2	14,802
CP 69-2009	54.51	232.2	12,657	251.4	13,704
CP 70-1467	59.87	236.5	14,159	228.5	13,680
CP 70-1383	56.62	230.0	13,023	241.0	13,645
CP 70-1548	56.18	223.5	12,556	235.8	13,247
CP 70-1512	46.23	222.8	10,300	238.6	11,030
LSD:[2]					
5% level	8.97	([3])	([3])	21.6	1,729
1% level	12.11	([3])	([3])	29.2	2,335

[1] Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

[2] LSD = Least significant difference between any 2 values.

[3] Not determined.

TABLE 20.—*Yields of cane and sugar from plant cane on Pompano fine sand*

Variety	Cane harvest 1/28/77 (tons/acre)	96° sugar at preharvest 11/2/76		96° sugar at harvest 1/28/77	
		Pounds/ ton of cane	Pounds/ acre of cane[1]	Pounds/ ton of cane	Pounds/ acre of cane
CP 72–1312	67.00	200.4	13,427	257.3	17,239
CP 72–1370	60.32	204.5	12,335	262.8	15,852
CP 72–1271	57.62	218.8	12,607	259.4	14,947
CP 72–1215	58.33	181.2	10,569	252.4	14,722
CP 70–1133	57.49	233.6	13,430	253.6	14,579
CP 63–588	52.73	253.3	13,356	270.5	14,263
CP 72–1210	48.08	208.6	10,029	270.9	13,025
CP 71–2050	47.77	193.3	9,234	234.6	11,207
CP 72–1497	46.54	218.8	10,183	237.0	11,030
LSD:[2]					
5% level	11.17	([3])	([3])	13.5	1,457
1% level	([4])	([3])	([3])	18.3	1,974

[1] Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

[2] LSD = Least significant difference between any 2 values.

[3] Not determined.

[4] Not significant.

TABLE 21.—*Yields of cane and sugar from first stubble on Pompano fine sand*

Variety	Cane harvest 1/26/77 (tons/acre)	96° sugar at preharvest 11/2/76		96° sugar at harvest 1/26/77	
		Pounds/ ton of cane	Pounds/ acre of cane[1]	Pounds/ ton of cane	Pounds/ acre of cane
CP 71–1086	58.00	220.0	12,760	252.7	14,657
CP 63–588	45.67	238.6	10,897	285.8	13,052
CP 71–1555	44.84	241.6	10,833	265.6	11,910
CP 71–1194	46.45	214.3	9,954	250.4	11,631
CP 71–1027	45.50	235.0	10,692	252.6	11,493
CP 71–1240	44.79	227.2	10,176	249.8	11,188
CP 71–1442	42.22	236.7	9,993	261.7	11,049
CP 70–1527	43.59	201.8	8,796	231.1	10,074
CP 71–1270	38.79	232.0	8,999	258.3	10,019
CP 71–1166	37.36	235.4	8,794	244.9	9,149
CP 71–1504	32.98	248.4	8,192	270.0	8,905
CP 71–1273	31.97	244.7	7,823	261.7	8,366
CP 71–1449	24.80	264.8	6,567	258.9	6,421
LSD:[2]					
5% level	7.43	([3])	([3])	13.3	1,025
1% level	9.96	([3])	([3])	17.9	1,375

[1] Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

[2] LSD = Least significant difference between any 2 values.

[3] Not determined.

TABLE 22.—*Yields of cane and sugar from second stubble on Pompano fine sand*

Variety	Cane harvest 1/28/77 (tons/acre)	96° sugar at preharvest 11/1/76		96° sugar at harvest 1/28/77	
		Pounds/ ton of cane	Pounds/ acre of cane[1]	Pounds/ ton of cane	Pounds/ acre of cane
CP 70-1133	48.91	240.3	11,753	256.2	12,531
CP 70-1547	46.90	215.8	10,121	231.8	10,871
CP 63-588	31.73	244.4	7,755	273.0	8,662
CP 70-1548	21.52	258.0	5,552	276.1	5,942
CP 70-1163	22.69	253.0	5,740	255.6	5,800
CP 70-1191	22.30	244.1	5,443	257.2	5,736
CP 70-1467	19.91	243.8	4,854	254.7	5,071
CP 70-1512	16.95	229.2	3,885	243.0	4,119
CP 70-1093	16.28	247.7	4,032	259.0	4,216
CP 69-2009	13.14	243.8	3,204	251.8	3,309
CP 70-1383	12.38	236.3	2,925	251.2	3,110
LSD:[2]					
5% level	8.57	([3])	([3])	13.7	863
1% level	11.55	([3])	([3])	18.4	1,162

[1] Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

[2] LSD = Least significant difference between any 2 values.

[3] Not determined.

*1977-GPO-1750-S/771-040/24

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